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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,675	03/29/2004	Hirokazu Yamagata	0756-7276	1165

31780 7590 12/11/2006

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EXAMINER	
HU, SHOUXIANG	

ART UNIT	PAPER NUMBER
2811	

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/810,675	YAMAGATA ET AL.	
	Examiner	Art Unit	
	Shouxiang Hu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-24 and 31-52* is/are pending in the application.

4a) Of the above claim(s) *11,17,23,35 and 41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-10,12-16,18-22,24,31-34,36-40 and 42-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/073,285.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

According to previous office actions, claims 1-3, 5-24 and 31-52 are pending in this application; and claims 1-3, 5-10, 12-16, 18-22, 24, 31-34, 36-40 and 42-52 remain active in this office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-10, 12-16, 18-22, 24, 31-34, 36-40 and 42-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Applicant's admitted prior art) in view of JP'781 (JP 11-224781; 08/1999; of record).

AAPA discloses a light emitting display device (Fig. 2 in the instant disclosure), comprising: a thin film transistor (202) on an insulating surface; an interlayer insulating film (203) over the thin film transistor; an anode (205; ITO) having a first portion that has a leveling surface over the interlayer insulating film and a second portion also over the interlayer insulating film; a wiring (204) electrically connected to the thin film transistor and the anode; a bank (208) over the wiring and a portion of the anode; a light-emitting

compound organic compound layer (206) over the anode and an upper surface of the bank; and a cathode (207) over the organic compound layer.

Although AAPA does not expressly disclose that the device can further include a an insulating film between the anode and the organic compound layer, JP'781 teaches to include such an insulating film in order to improve the uniformity of the light-emitting compound layer and to reduce leaking current therethrough (see the first insulating layer 109 in Fig.1), wherein the insulating layer (109) can be as thin as less than 5 nm and can be formed of a polymer through coating (see paragraphs 0010-0017 and 0022-0024), which thus can be naturally regarded as an organic resin film.

In addition, it is art known that, when a patterned stack of thin films is formed, the thin films therein can be desirably formed as a stack and then patterned the thin films together to form the patterned stack, instead of forming and patterning each thin films separately, so as to simplify patterning process for the thin films and/or for better and/or cleaner surfaces/interfaces of the individual thin films by avoiding unnecessary surface exposures for the individual thin films, as further evidenced in AAPA, wherein the stack of thin films (including 207 and 206) is naturally formed and patterned together.

Therefore, it would have been obviously to one of ordinary skill in the art at the time the invention was made to incorporate the insulating layer of JP'781 into the thin film stack AAPA, so that a light-emitting device with reduced leaking current would be obtained through a process that can reduce unnecessary patterning process and/or for better and/or cleaner surfaces/interfaces of the individual thin films in the stack. And, by incorporating the insulating layer of JP'781 into the thin film stack AAPA, the insulating

film in the above collectively taught device would be naturally positioned over both of the leveling surface of the first portion and an upper surface of the band, in a manner substantially same as that of the original thin film stack in AAPA.

Regarding claims 7-8, 13-14, 19-20, 31-32 and 37-38, it is noted that the average surface roughness (Ra) of the anode is an art-recognized resulted-oriented important parameter subject to routine experimentation and optimization; and that a low Ra such as in a range of 0.85 nm or less for the anode is always desirable in the art, for further reducing any potential current leakage.

Regarding claims 9, 15, 21, 33 and 39, it is noted that each of the cited insulating materials is commonly used in the art to form an interlayer insulating film.

Regarding claims 10, 16, 22, 34, 40 and 43-47, it is noted that it is art-known that the bank can be formed of a hardened resist/resin film that naturally includes the recited element(s) and is naturally insulating. In fact, the bank in AAPA is formed of a resin, which would have be to hardened (or hardened from a resist-like precursor) in order to remain to be sufficiently firm and stable; and it thus can be naturally regarded as a hardened resist/resin film that naturally includes the recited element(s). In addition, it is noted that any process limitations recited or implicated in these claims would not carry patentable weight in the claims drawing to a structure, because distinct structure is not necessarily produced. In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claims 48-52, it is noted that any process limitations recited or implicated in these claims about how the recited leveling surface can be formed would not carry patentable weight in the claims drawing to a structure, because distinct

structure is not necessarily produced. In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

Response to Arguments

Applicant's arguments filed on September 28, 2006 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, as explained in the claim rejections set forth above, the collective teachings of AAPA and JP'781 do teach the claimed invention, because the original thin film stack in AAPA is expressly formed over both of the leveling surface of the first portion and an upper surface of the band; and, by incorporating the insulating layer of JP'781 into the thin film stack AAPA, the insulating film in the device collectively taught by AAPA and JP'781 would be naturally positioned over both of the leveling surface of the first portion and an upper surface of the band, in a manner substantially same as that of the original thin film stack in AAPA.

Furthermore, JP'781 expressly emphasizes the importance of the surface cleanness of the underlying film to the performance of the organic EL layer formed thereon; and, one of the ordinary skill in the art would be encouraged to incorporate the insulating layer of JP'781 into the thin film stack AAPA, as it would obviously allow the

organic EL layers to be formed directly on the insulating film before the insulating film being patterned; otherwise, unnecessary further surface contamination may happen to the insulating film during any early patterning for the insulating film, and such early patterning would be naturally required it the insulating layer of JP'781 were instead incorporated into the underlying anode layer 205 in AAPA .

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SH
December 4, 2006

SHOUXIANG HU
PRIMARY EXAMINER